Cork Trees

Natural cork is a component in the bark of many trees. Trees that produce a significant cork layer as a part of the bark are often found in savanna ecosystems where grasslands dominate and trees are sporadic.

During dry seasons, these grasslands have the potential to burn fast and at a high frequency. Trees that will survive annual fires must develop an effective way to insulate the cambium layer of living tissue, and cork is the answer.

Uses

Cork is a lightweight material that resists decay, is elastic, and is nearly impermeable to air. These characteristics make the material well-suited for stopping bottles of wine. Other uses of cork include

- Flooring material.
- Fishing floats.
- Bulletin boards.
- Core of baseballs.
- Spacecraft heat shield components.

Cork Oak *(Quercus suber)*

Quercus suber, or cork oak, is cultivated for the cork developed as part of the tree bark. Native to western Africa and southwest Europe, cork oak grows naturally in forests and open woodlands. This species is tolerant of partial shade and prefers acidic, well-drained soils.

Cork trees are native to arid climates and tolerant of drought. In a suitable environment, the cork oak can reach heights of 70 to 100 feet and an equal spread at maturity. Cork trees are hardy in plant zones 8 through 10, making them unable to survive winter conditions in Illinois.

Many tree species evolved the same thick bark in response to living in ecosystems prone to fire. In the Midwest, *Quercus macrocarpa* or Bur oak is native to a tallgrass prairie savanna and has evolved thick, corky bark to defend against frequent fires.

FIG. 1. Cork trees are capable of living for over 200 years.

FIG. 2. A center cut of a small cork tree.

Sustainability

Cork production is considered a sustainable industry because only part of the tree is collected, leaving the specimen to live and grow. However, commercial cork production is labor intensive and requires a significant post-harvest recovery period for the tree.

Harvesting Process

Professionals known as extractors use specialized tools and immense skill to harvest tree bark without causing long-term damage to the tree. A single horizontal cut is made around the tree's circumference, followed by multiple vertical cuts. Sheets of bark, also called planks, are removed from the tree.

Trees are cultivated on plantations and kept in production until reaching the age of 125 years, although they are capable of living for more than 200 years. The first harvest rarely occurs before a tree reaches 30 years and two feet in circumference. Cork collected during the first harvest is of lower quality than subsequent harvests and is referred to as virgin cork.

Once a cork harvest is complete, trees are allowed to recover for nearly a decade before being able to produce another cork harvest.

- Portugal produces approximately 50% of the world's cork harvest each year.
- Most of the annual cork production is used in products other than wine bottle stops.
- Only about 15% of cork is used in the wine industry, but it accounts for approximately 65% of industry revenue.

Whistler's Tree

The Whistler's Tree or Sobreiro Monumental in Aguas de Moura, Portugal, is known as the largest production cork tree. Planted in 1783, the tree has produced over 20 cork harvests. The largest single harvest produced 2,646 pounds of raw cork. That's enough to make 100,000 wine bottle stoppers.

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FIG. 3. A group of previously harvested cork trees.

FIG. 4. A single, horizontal cut around the circumference of a cork tree during harvest.

FIG. 5. A stack of harvested cork.

FIG. 6. Single piece of processed cork.

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